CLAIMS

What is claimed is:

1. A method of manufacturing an electric motor, comprising the acts of:

extruding a portion of a conduit box to form a hollow extension;

inserting the extension through a first hole in a motor housing of an electric motor; and

permanently plastically deforming the extension after the extension is inserted through the first hole to prevent withdrawal of the extension through the first hole.

2. The method as recited in claim 1, wherein extruding comprises driving a first punch through a second hole in the conduit box to form a generally cylindrical extension.

3. The method as recited in claim 2, wherein driving a first punch comprises pressing a conical portion of the first punch into the second hole followed by a cylindrical portion of the first punch.

4. The method as recited in claim 2, wherein inserting comprises inserting the generally cylindrical extension through a generally circular first hole in the motor housing.

5. The method as recited in claim 4, wherein plastically deforming the extension comprises driving a second punch against the generally cylindrical extension to form a generally circular flange.

6. The method as recited in claim 5, wherein driving a second punch comprises pressing a conical portion of the second punch into the generally cylindrical extension followed by a cylindrical portion of the second punch.

7. The method as recited in claim 1, further comprising disposing a stator within the motor housing.

8. The method as recited in claim 7, further comprising routing a plurality of conductors from the stator to the conduit box through the extension.

9. The method as recited in claim 7, further comprising threading a first member through the conduit box and the motor housing to prevent the stator from rotating and to prevent movement of the conduit box.

10. The method as recited in claim 1, wherein plastically deforming comprises coining the extension against an interior surface of the motor housing.

11. A method of manufacturing an electric motor, comprising the acts of:

adapting a conduit box to comprise a hollow extension having a first width;

disposing the conduit box against a motor housing to place the extension through a first hole in the motor housing, the first hole having a first diameter greater than the first width; and

pressing a tool against the extension to enlarge the extension to a second width within the motor housing, the second width being greater than the first diameter.

12. The method as recited in claim 11, wherein adapting comprises extruding a portion of the conduit box.

13. The method as recited in claim 11, wherein extruding comprises pressing a first tool through a second hole in the conduit box to adapt the second hole into a hollow cylinder.

14. The method as recited in claim 13, wherein pressing a first tool comprises driving a conical tool portion through the second hole, followed by driving a cylindrical tool portion through the second hole.

15. The method as recited in claim 13, wherein extruding comprises aligning the conduit box and the first tool with an aligning tool assembly prior to extruding the conduit box.

16. The method as recited in claim 15, wherein aligning comprises placing a guide through a third hole in the conduit box.

17. The method as recited in claim 11, wherein pressing comprises driving a second tool into the hollow extension to form a flange.

18. The method as recited in claim 17, wherein driving a conical tool portion into the hollow extension followed by a cylindrical tool portion.

19. The method as recited in claim 11, further comprising housing a stator within the motor housing.

20. The method as recited in claim 19, further comprising routing a plurality of conductors from the stator to the conduit box through the extension.

21. The method as recited in claim 19, further comprising inserting a first member through the conduit box and the motor housing to the stator to prevent the stator from rotating and to prevent movement of the conduit box.

22. The method as recited in claim 11, wherein pressing comprises coining the extension against an interior surface of the motor housing.

23. A method of manufacturing an electric motor, comprising the acts of:

disposing an extension from a bottom of a conduit box through an opening through a motor housing of an electric motor; and

plastically deforming the extension to capture the motor housing between the extension and the bottom of the conduit box to secure the conduit box to the motor housing.

24. The method as recited in claim 25, comprising extruding a portion of the conduit box to form the extension.

25. The method as recited in claim 24, wherein extruding comprises driving a first punch through an opening in the conduit box to form a generally cylindrical extension.

26. The method as recited in claim 25, wherein driving a first punch comprises pressing a conical portion of the first punch into the second hole followed by a cylindrical portion of the first punch.

27. The method as recited in claim 25, wherein the opening in the motor housing is generally circular and disposing comprises inserting the generally cylindrical extension through the generally circular first hole in the motor housing.

28. The method as recited in claim 27, wherein plastically deforming the extension comprises driving a second punch against the generally cylindrical extension to form a generally circular flange.

29. The method as recited in claim 28, wherein driving a second punch comprises pressing a conical portion of the second punch into the generally cylindrical extension followed by a cylindrical portion of the second punch.